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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/770,420	02/04/2004	Nozomu Hayashi	00862.023445	1933
5514	7590	06/01/2006	EXAMINER	
FITZPATRICK CELLA HARPER & SCINTO			PHAM, HOA Q	
30 ROCKEFELLER PLAZA			ART UNIT	PAPER NUMBER
NEW YORK, NY 10112			2877	

DATE MAILED: 06/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/770,420

Applicant(s)

HAYASHI, NOZOMU

Examiner

Hoa Q. Pham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-10, 12 and 14-16 is/are rejected.
- 7) ☒ Claim(s) 4, 6, 11 and 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/4/04 &amp; 3/2/04</u> . | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Drawings***

2. Figure 2A, 2B and 7 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-2, 8-9, 15 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Mori (6,091,481).

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Regarding claims 1 and 8, Mori discloses a position method and apparatus and projection exposure apparatus comprises a sensing unit (53) for sensing an image of the first mark (Gs) and second mark (GW); a transform unit (104) which orthogonal transforms a signal obtained by the sensing unit; and a calculation unit (106, 107, 108) which calculates each position of the first and second marks based on the phase of corresponding frequency component obtained by the transform unit (figure 1, column 3, lines 41-55, column 4, lines 9-17, column 6, lines 19-30 and column 7, lines 7-15).

Regarding claims 2 and 9, Mori teaches that the reference mark (Gs) is formed on reference mask (column 5, lines 1-2) and wafer mark (GW) is formed on the wafer (W).

Regarding claim 15, see abstract for the position apparatus and method.

Regarding claim 16, see column 1, line 9, for exposure apparatus.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3, 7, 10 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori.

Regarding claims 3 and 10, Mori does not explicitly teach that both reference mark and wafer mark are on the same object; however, it would have been obvious to

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one having ordinary skill in the art at the time the invention was made to modify the Mori by placing the reference mark and wafer mark on the same wafer. The rationale for this modification would have arisen from the fact that Mori suggests that both marks are in the same form (see column 5, lines 3-5); thus, they could be formed on the same object. In addition, using both marks on the same object would reduce the cost of the device.

Regarding claims 7 and 14, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Mori by arranging the first mark and second mark perpendicular to each other, since it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70.

7. Claims 5 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori in view of Koren et al (6,844,918).

Regarding claims 5 and 12, Koren et al, from the same field of endeavor, teaches that the position of the marks is determined on the basis of the coarse position, fine position and the phase between two marks (column 13, line 61 through column 24, line 20). It would have obvious to one having ordinary skill in the art at the time the invention was made to replace the calculation steps of Mori by calculation steps of Koren et al for the purpose of determining the position of the marks. A substitution one for another is generally recognized as being within the level of ordinary skill in the art.

***Allowable Subject Matter***

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8. Claims 4, 6, 11, 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

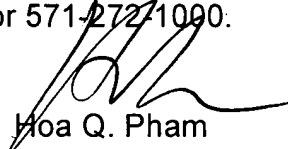
9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Following references relate to position measurement device: Koga et al (5,986,766), Torigoe (5,231,471), Sato et al (5,585,925), Uzawa et al (6,333,786) and Oishi (US 2006/0092420).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoa Q. Pham whose telephone number is (571) 272-2426. The examiner can normally be reached on 7:30AM to 6 PM, Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on (571) 272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Hoa Q. Pham  
Primary Examiner  
Art Unit 2877

HP  
May 24, 2006